AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

LISTING OF CLAIMS:

1. (Original) A luminescence system, wherein a first chemical substance changes into a second chemical substance having a chemical structure that is different from that of the first chemical substance and thereby luminesces.

2. (Original) The luminescence system according to Claim 1, wherein the second chemical substance turns back into the first chemical substance after luminescence.

3. (Original) A method of luminescence of a chemical substance, the method comprising injecting an electric charge into a first chemical substance so as to form an oxidized form or a reduced form of a second chemical substance having a chemical structure that is different from that of the first chemical substance, and further injecting an electric charge that is opposite to the above electric charge so as to form an excited state of the second chemical substance to thereby make it luminesce.

4. (Original) The method of luminescence according to Claim 3, wherein the second chemical substance turns back into the first chemical substance after luminescence.

5. (Original) A chemical substance for luminescence, wherein a first chemical substance changes into a second chemical substance having a chemical structure that is different from that of the first chemical substance and thereby luminesces.

6. (Original) The chemical substance for luminescence according to Claim 5, wherein the second chemical substance turns back into the first chemical substance after luminescence.

7. (Currently amended) The chemical substance for luminescence according to ~~either~~ Claim 5 ~~or 6~~, wherein the second chemical substance is formed via a bond formation reaction from the first chemical substance.

8. (Currently amended) The chemical substance for luminescence according to ~~either~~ Claim 5 ~~or 6~~, wherein the second chemical substance is formed via a bond cleavage reaction from the first chemical substance.

9. (Currently amended) The chemical substance for luminescence according to Claim 7~~any one of Claims 5 or 7~~, wherein the second chemical substance turns back into the first chemical substance via a bond cleavage reaction.

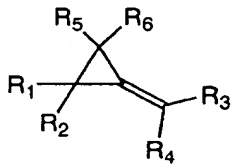
10. (Currently amended) The chemical substance for luminescence according to Claim 8~~any one of Claims 5, 6, or 8~~, wherein the second chemical substance turns back into the first chemical substance via a bond formation reaction.

11. (Currently amended) The chemical substance for luminescence according to Claim 5~~any one of Claims 5 to 10~~, wherein the second chemical substance is an open-shell species having monoradical or biradical.

12. (Currently amended) The chemical substance for luminescence according to Claim 5~~any one of Claims 5 to 11~~, wherein the ground-state multiplicity of the second chemical substance is a triplet.

13. (Currently amended) The chemical substance for luminescence according to Claim 5~~any one of Claims 5 to 12~~, wherein it is represented by Formula (1) below

[Chem. 1]



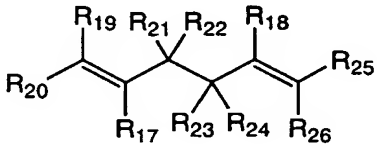
(1)

(in the formula, R_1 to R_6 denote a hydrogen atom, a halogen atom, a cyano group, a nitro group, a hydroxyl group, a mercapto group; a straight-chain, cyclic, or branched alkyl group, alkoxy group, or alkylthio group having 1 to 22 carbons; an aryl group

having 6 to 30 carbons, a heteroaryl group having 2 to 30 carbons, an aryloxy group having 6 to 30 carbons, a heteroaryloxy group having 2 to 30 carbons, an arylthio group having 6 to 30 carbons, a heteroarylthio group having 2 to 30 carbons, or an aralkyl group having 7 to 30 carbons, R_1 to R_6 may be identical to or different from each other; and, furthermore, R_1 to R_6 may have a substituent selected from the group consisting of $-R_7$, $-OR_8$, $-SR_9$, $-OCOR_{10}$, $-COOR_{11}$, $-SiR_{12}R_{13}R_{14}$, and $-NR_{15}R_{16}$ (here, R_7 to R_{16} denote a hydrogen atom, a halogen atom, a cyano group, a nitro group; a straight-chain, cyclic, or branched alkyl group having 1 to 22 carbons, or a halogen-substituted alkyl group in which part or all of the hydrogen atoms of the above are substituted with a halogen atom; an aryl group having 6 to 30 carbons, a heteroaryl group having 2 to 30 carbons, or an aralkyl group having 7 to 30 carbons, or a halogen-substituted aryl group, halogen-substituted heteroaryl group, or halogen-substituted aralkyl group in which part or all of the hydrogen atoms of the above are substituted with a halogen atom, and R_7 to R_{16} may be identical to or different from each other)).

14. (Currently amended) The chemical substance for luminescence according to Claim 5~~any one of Claims 5 to 12~~, wherein it is represented by Formula (4) below

[Chem. 2]

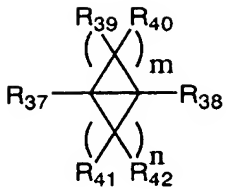


(4)

(in the formula, R_{17} to R_{26} denote a hydrogen atom, a halogen atom, a cyano group, a nitro group, a hydroxyl group, a mercapto group; a straight-chain, cyclic, or branched alkyl group, alkoxy group, or alkylthio group having 1 to 22 carbons; an aryl group having 6 to 30 carbons, a heteroaryl group having 2 to 30 carbons, an aryloxy group having 6 to 30 carbons, a heteroaryloxy group having 2 to 30 carbons, an arylthio group having 6 to 30 carbons, a heteroarylthio group having 2 to 30 carbons, or an aralkyl group having 7 to 30 carbons, R_{17} to R_{26} may be identical to or different from each other; and, furthermore, R_{17} to R_{26} may have a substituent selected from the group consisting of $-R_{27}$, $-OR_{28}$, $-SR_{29}$, $-OCOR_{30}$, $-COOR_{31}$, $-SiR_{32}R_{33}R_{34}$, and $-NR_{35}R_{36}$ (here, R_{27} to R_{36} denote a hydrogen atom, a halogen atom, a cyano group, a nitro group; a straight-chain, cyclic, or branched alkyl group having 1 to 22 carbons, or a halogen-substituted alkyl group in which part or all of the hydrogen atoms of the above are substituted with a halogen atom; an aryl group having 6 to 30 carbons, a heteroaryl group having 2 to 30 carbons, or an aralkyl group having 7 to 30 carbons, or a halogen-substituted aryl group, halogen-substituted heteroaryl group, or halogen-substituted aralkyl group in which part or all of the hydrogen atoms of the above are substituted with a halogen atom, and R_{27} to R_{36} may be identical to or different from each other)).

15. (Currently amended) The chemical substance for luminescence according to Claim 5~~any one of Claims 5 to 12~~, wherein it is represented by Formula (7) below

[Chem. 3]



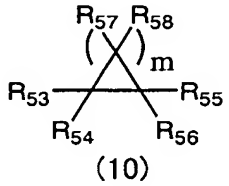
(7)

(in the formula, R_{37} to R_{42} denote a hydrogen atom, a halogen atom, a cyano group, a nitro group, a hydroxyl group, a mercapto group; a straight-chain, cyclic, or branched alkyl group, alkoxy group, or alkylthio group having 1 to 22 carbons; an aryl group having 6 to 30 carbons, a heteroaryl group having 2 to 30 carbons, an aryloxy group having 6 to 30 carbons, a heteroaryloxy group having 2 to 30 carbons, an arylthio group having 6 to 30 carbons, a heteroarylthio group having 2 to 30 carbons, or an aralkyl group having 7 to 30 carbons, R_{37} to R_{42} may be identical to or different from each other; furthermore, R_{37} to R_{42} may have a substituent selected from the group consisting of $-R_{43}$, $-OR_{44}$, $-SR_{45}$, $-OCOR_{46}$, $-COOR_{47}$, $-SiR_{48}R_{49}R_{50}$, and $-NR_{51}R_{52}$ (here, R_{43} to R_{52} denote a hydrogen atom, a halogen atom, a cyano group, a nitro group; a straight-chain, cyclic, or branched alkyl group having 1 to 22 carbons, or a halogen-substituted alkyl group in which part or all of the hydrogen atoms of the above are substituted with a halogen atom; an aryl group having 6 to 30 carbons, a heteroaryl group having 2 to 30 carbons, or an aralkyl group having 7 to 30 carbons, or a halogen-substituted aryl group, halogen-substituted heteroaryl group, or halogen-substituted aralkyl group in which part or all of the hydrogen atoms of the above are substituted with a halogen

atom, and R_{43} to R_{52} may be identical to or different from each other), and m and n are integers of 1 to 3).

16. (Currently amended) The chemical substance for luminescence according to Claim 5~~any one of Claims 5 to 12~~, wherein it is represented by Formula (10) below

[Chem. 4]



(10)

(in the formula, R_{53} to R_{58} denote a hydrogen atom, a halogen atom, a cyano group, a nitro group, a hydroxyl group, a mercapto group; a straight-chain, cyclic, or branched alkyl group, alkoxy group, or alkylthio group having 1 to 22 carbons; an aryl group having 6 to 30 carbons, a heteroaryl group having 2 to 30 carbons, an aryloxy group having 6 to 30 carbons, a heteroaryloxy group having 2 to 30 carbons, an arylthio group having 6 to 30 carbons, a heteroarylthio group having 2 to 30 carbons, or an aralkyl group having 7 to 30 carbons, R_{53} to R_{58} may be identical to or different from each other; furthermore, R_{53} to R_{58} may have a substituent selected from the group consisting of $-R_{59}$, $-OR_{60}$, $-SR_{61}$, $-OCOR_{62}$, $-COOR_{63}$, $-SiR_{64}R_{65}R_{66}$, and $-NR_{67}R_{68}$ (here, R_{59} to R_{68} denote a hydrogen atom, a halogen atom, a cyano group, a nitro group; a straight-chain, cyclic, or branched alkyl group having 1 to 22 carbons, or a halogen-substituted alkyl group in which part or all of the hydrogen atoms of the above are substituted with a

halogen atom; an aryl group having 6 to 30 carbons, a heteroaryl group having 2 to 30 carbons, or an aralkyl group having 7 to 30 carbons, or a halogen-substituted aryl group, halogen-substituted heteroaryl group, or halogen-substituted aralkyl group in which part or all of the hydrogen atoms of the above are substituted with a halogen atom, and R_{59} to R_{68} may be identical to or different from each other), and m is an integer of 1 to 3).

17. (Currently amended) A luminescent device comprising the chemical substance for luminescence according to Claim 5~~any one of Claims 5 to 16~~.

18. (Currently amended) An electroluminescent device comprising the chemical substance for luminescence according to Claim 5~~any one of Claims 5 to 16~~.

19. (Currently amended) A mixture for luminescence comprising the chemical substance for luminescence according to Claim 5~~any one of Claims 5 to 16~~, and a low molecular weight compound and/or a high molecular weight compound.